



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,429	02/20/2004	Ronald D. Knudsen	210453US01 (4081-04401)	6369

37814 7590 05/24/2006

CHEVRON PHILLIPS CHEMICAL COMPANY
5700 GRANITE PARKWAY, SUITE 330
PLANO, TX 75024-6616

EXAMINER

PASTERCZYK, JAMES W

ART UNIT PAPER NUMBER

1755

DATE MAILED: 05/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/783,429

Applicant(s)

KNUDSEN ET AL.

Examiner

J. Pasterczyk

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-25,31 and 37-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-25,31 and 37-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1755

1. This Office action is in response to the amendment filed 4/18/06 and refers to the Office action mailed 1/18/06.

2. Claim 25 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the central element of the pyrrole compound being chromium, does not reasonably provide enablement for this element to be anything else. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims. The present claim requires that pyrrole compounds exist for any element from groups 3-6 and 13-15 of the periodic table, including apparently arsenic, antimony and bismuth, boron, and carbon, each corresponding to formula (I) of claim 25, yet no evidence is presented in the specification to clearly disclose such is the case. The rejection is not that water can be "abated" but that the compounds are not clearly disclosed in such a manner that they can be made without extensive undue experimentation and hence the invention as claimed be practiced by the routineer in the art.

3. Claims 2 and 43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In both claims 2 and 43, part (ii) recites a metal halide and a metal alkyl, while the preambles to the claims recite that this is a member of a group of metal-halide containing compounds. Applicants then argue that these two reagents "may form a metal halide-containing compound (emphasis added)." However, the metal halide-containing compound appears to be

Art Unit: 1755

mandatory, not optional as the word “may” suggests, hence it is not clear that these part (iii) recitations actually do contain a metal halide-containing compound.

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-3, 5-25, 31, 39-42 and 46-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reagan as cited in paragraphs 5 and 6 of the previous Office action in view of Manzer, USP 4,057,565 (hereafter referred to as Manzer).

Reagan discloses the invention substantially as claimed (abstract; col. 2, l. 15-19; col. 6, l. 58 to col. 7, l. 8; col. 8, l. 37-68; col. 9, l. 57 to col. 10, l. 2; col. 10, l. 18-22, l. 60-68; col. 13, l. 1-32; col. 14, l. 37-68; col. 15, l. 55 to col. 16, l. 2; col. 17, l. 6-10; col. 19, l. 42 to col. 20, l. 15; examples).

Reagan lacks explicit disclosure that a non-halide metal alkyl can eliminate water from any of the reagents used in the preparation of its compounds, or that water may also be removed by distillation of its azeotropes with any number of solvents with which it forms azeotropes, although the disclosure is rife with references to the need to work in anhydrous conditions in order to prepare and use its catalysts.

However, Manzer explicitly teaches that organoaluminum compounds, a species of non-halide metal alkyl, can indeed remove trace water from compounds analogous to those of the present claims (col. 6, l. 35-44). In addition, distillation of azeotropes of water using other solvents with which water forms azeotropes using Dean-Stark traps is a conventional technique for removing trace water from liquids, e.g. the purification of grain alcohol i.e. ethanol to 100% by addition of benzene to the 95% pure material normally obtained in the distillation of grain

Art Unit: 1755

spirits followed by distilling this mixture which removes an azeotrope of benzene and water, leaving behind benzene and ethanol which can be separated by ordinary distillation since benzene and ethanol do not form an azeotrope, i.e. a constant boiling mixture of two liquids.

It would have been obvious to one of ordinary skill in the art to apply the teaching of Manzer to the disclosure of Reagan with a reasonable expectation of obtaining a highly-useful method of making an olefin oligomerization catalyst with the expected benefit of higher yield of the catalyst because less of its precursors are destroyed by reaction with water as an impurity in the reactants and solvents used to make the catalyst.

6. Claims 43-46, 52 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reagan as cited above in view of Furtek, USP 4,876,229 (hereafter referred to as Furtek).

The disclosure of Reagan has been discussed in paragraph 5 above.

Reagan lacks disclosure that adsorbents can be used to remove water from e.g. solvents and liquid reactants in the preparation of its compounds.

However, Furtek teaches at col. 11, l. 48-52, that silica gel and molecular sieves are conventional adsorbents to remove traces of water from reagents that are to be used in processes of making water-reactive compounds or compositions.

It would have been obvious to one of ordinary skill in the art to apply the teaching of Furtek to the disclosure of Reagan with a reasonable expectation of obtaining a highly-useful method of making an olefin oligomerization catalyst with the expected benefit of higher yield of the catalyst because less of its precursors are destroyed by reaction with water as an impurity in the reactants and solvents used to make the catalyst.

7. Applicant's arguments filed 4/18/06 have been fully considered but they are not persuasive.

Applicants assert that the methods of drying various reagents of water in the present claims are novel or unobvious. However, they are not at all novel and completely obvious even in the lay-person meaning of the terms as well as the US patent law meaning of the terms as attested to by each of the references cited against the present claims.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Pasterczyk whose telephone number is 571-272-1375. The examiner can normally be reached on M-F from 9 to 5:30.

Art Unit: 1755

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

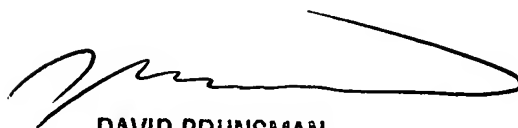
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



J. Pasterczyk

AU 1755

5/18/06



DAVID BRUNSMAN
PRIMARY EXAMINER
GROUP 1100